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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,837	03/05/2002	Bruce LaVigne	100202408-1	8627

7590 11/28/2005

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EXAMINER	
DYKE, KERRI M	

ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/091,837	Applicant(s) LAVIGNE ET AL.	
	Examiner Kerri M. Dyke	Art Unit 2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 March 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Figure 2 element 101 and Figure 3B element 380. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figure 1 elements 14 and 16 and figure 2 element 96. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any

required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "10" has been used to designate both "input packet" and "input port." Character 10 is found in figure 1, where it marks the input port. It is referred to as representing an input packet in page 2 of the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2, 4, 7-8, 10-13, 15-17, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Budiardjo et al.

6. In regards to claim 1, Budiardjo discloses a system for performing an input processing function on a data packet comprising: an input port; a first processor coupled to said input port

which determines an attribute of said data packet; and an memory coupled to said first processor having a plurality of queues of differing priorities, wherein said data packet is assigned to one of said plurality of queues based upon said attribute and input processing is performed in a fixed amount of time and variable latency operations are performed after said data packet is stored in said memory. Figure 1 discloses an input processor coupled to a memory which contains a plurality of queues with different priorities. It is inherent that there is an input port coupled to the input processor, otherwise data would not be able to enter the system. Section 3 discloses that the input port determines the priority of the packet based upon the RJ value. (An explanation of the RJ value is in section 2.) Section 3 also discloses that the router configuration shown in figure 1 is able to guarantee a packet-forwarding rate. Since the forwarding rate is set and guaranteed, the processing must be performed within a fixed amount of time, the amount of time chosen to conform to the guaranteed forwarding rate. Further support for the fact that processing must take a fixed amount of time is found in section 4, where it is disclosed that "assigning the input and output function into two separate processors (Pi and Po) yield to stable packet forwarding rate, independent of the arrival pattern of incoming packets."

7. In regards to claim 2, Budiardjo discloses the system as recited in claim 1 wherein said attribute comprises an indicator of a priority characterizing said data packet (section 3).

8. In regards to claim 4, Budiardjo discloses the system as recited in claim 1, wherein said system functions in concert with a subsequent processor (output processor, figure 1).

9. In regards to claim 7, Budiardjo discloses the system as recited in claim 1 wherein said memory functions as an input buffer (Figure 1 shows the memory as being buffers a, b, and c).

10. In regards to claim 8, Budiardjo discloses a method for performing an input process on a data packet comprising: pre-processing said data packet to determine a characteristic of said data packet before said data packet is buffered; determining one of a plurality of queues within a memory corresponding to said characteristic; and storing said data packet in said one of said plurality of queues according to said characteristic determined by said pre-processing; wherein said processing operation is performed is performed prior to said passing. Section 3 discloses determining a characteristic of the data packet and using said characteristic to choose the appropriate buffer. After the characteristic and appropriate queue is determined the data packet is placed in the appropriate queue.

11. In regards to claim 10, Budiardjo discloses the method as recited in claim 8 wherein said input process is performed by an input pre-processor. Figure 1 shows the input processor, Pi. Pi is labeled as an input processor, but the processing is done before the packet is placed in a queue, making it an input preprocessor.

12. In regards to claim 11, Budiardjo discloses the method as recited in claim 10 wherein said passing said data packet through to said queue further comprises pipelining said data packet with no variable latency. Section 3 discloses that the packet is forwarded with a guaranteed rate. In order to meet this rate the packet must be queued without variable delay. If the queuing delay was variable then the system would not be able to predict and guarantee a rate of service.

13. In regards to claim 12, Budiardjo discloses the method as recited in claim 8 wherein said input process operates to place said data packet it in an appropriate queue within said input memory system (section 3).

14. In regards to claim 13, Budiardjo discloses the method as recited in claim 8 wherein said forwarding process enables said input memory system to utilize a full bandwidth of said input port. In sections 4 and 5 Budiardjo discloses that packet loss from the system is well below 8%. This means that the packet forwarding system is working effectively to prevent the backup of the input port and therefore the full bandwidth of the input port is utilized.

15. In regards to claim 15, Budiardjo discloses a system for input processing a data packet comprising: means for ascertaining an attribute of said data packet (section 2); and means for storing said data packet wherein said storing means comprises a plurality of means for queuing said data packet corresponding to said attribute (buffers a, b, c, figure 1).

16. In regards to claim 16, Budiardjo discloses the system as recited in claim 15 wherein said means for ascertaining further comprises: means for processing said data packet; and means for pipelining said data packet into said means for storing (Pi, figure 1).

17. In regards to claim 17, Budiardjo discloses the system as recited in claim 15 wherein said system operates with no variable latency. Section 4 discloses that the system yields stable packet forwarding rates. Stable rates indicate that the rates are not variable, therefore there cannot be variable latency within the system.

18. In regards to claim 19, Budiardjo discloses the system as recited in claim 15 wherein said means for storing further comprises means for buffering said data packet (figure 1).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. Claims 3, 9, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Budiardjo et al. in view of applicant admitted prior art.

21. In regards to claim 3, Budiardjo discloses the system as recited in claim 1, but not wherein said attribute is chosen from the group consisting essentially of: a type characterizing said data packet; encapsulation of said data packet; a priority corresponding to a tag comprising said data packet; a priority corresponding to another criterion; an Internet Protocol header identity; a Transfer Control Protocol header identity; a class assigned to said data packet; a class of service rating assigned to said data packet; a quality of service assigned to said data packet; and a differentiated services field.

Applicant admits it is well known to use a class of service rating assigned to a data packet in page 2 lines 9-16.

It would have been obvious to one of ordinary skill in the art to use COS to assign packets to a queue because COS indicates QoS parameters which must be satisfied by the network, as taught by Budiardjo in section 2.

22. Claim 9 is rejected upon the same grounds as claim 3.

23. Claim 18 is rejected upon the same grounds as claim 3.

24. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Budiardjo et al. in view of Narayana et al. (US 6,469,983).

25. In regards to claims 5 and 6, Budiardjo discloses the system of claim 1. Budiardjo does not disclose using a network control protocol or that protocol being a media access control layer.

26. Narayana discloses using a MAC layer, which is a type of network control protocol in figure 3.

27. It would have been obvious to one of ordinary skill in the art to use a network control protocol such as a MAC, because doing so is well known in the art and is actually required by most packet protocols.

28. Claims 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Budiardjo et al. in view of Gorshe (US 5,412,651).

29. In regards to claim 14, Budiardjo discloses the method as recited in claim 8, but not wherein said input memory system buffers subsequent processing of said data packet.

Gorshe discloses buffering subsequent processing of the data packet in column 3 lines 53-54.

It would have been obvious to one of ordinary skill in the art to buffer the subsequent processing of the data packet because doing so increases the efficiency of the system, as disclosed by Gorshe in column 3 line 66 – column 4 line 18.

30. In regards to claim 20, Budiardjo discloses the system as recited in claim 19 but not wherein said buffering means operates to buffer a subsequent processing operation wherein said subsequent processing operation comprises selectively a fixed and a variable latency.

Gorshe discloses buffering subsequent processing of the data packet in column 3 lines 53-54. Although Gorshe does not disclose the subsequent processing is selectively fixed or variable latency it is inherent that the subsequent processing must be one of the two because they are the only two options. Processing can either take a fixed or variable amount of time.

It would have been obvious to one of ordinary skill in the art to buffer the subsequent processing of the data packet because doing so increases the efficiency of the system, as disclosed by Gorshe in column 3 line 66 – column 4 line 18.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerri M. Dyke whose telephone number is (571) 272-0542. The examiner can normally be reached on Monday through Friday, 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kmd

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11/23/05